

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

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| Applicant's or agent's file reference B02/0509PC | FOR FURTHER ACTION | See Form PCT/IPEA/416 |
| International application No. PCT/EP2004/007141 | International filing date (day/month/year) 01.07.2004 | Priority date (day/month/year) 07.07.2003 |
| International Patent Classification (IPC) or national classification and IPC G01N21/25 | | |
| Applicant BASF COATINGS AG | | |

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 7 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☒ (sent to the applicant and to the International Bureau) a total of 4 sheets, as follows:

☒ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

| | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input checked="" type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

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| Date of submission of the demand | Date of completion of this report |
| Name and mailing address of the IPEA/EP | Authorized officer |
| Facsimile No. | Telephone No. |

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International application No.

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Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-33 _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. _____ as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* 1-15 _____ received by this Authority on 01.04.2005 with letter
- nos.* _____ received by this Authority on of 01.04.2005
- ☒ the drawings:
- sheets 1/14-14/14 _____ as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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| Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------|---|-------------|--------|------|-----|--------|--|----|---------------------|--------|------|-----|--------|--|----|-------------------------------|--------|------|-----|--------|--|----|
| 1. | Statement | | | | | | | | | | | | | | | | | | | | | |
| | <table><tr><td rowspan="2">Novelty (N)</td><td>Claims</td><td>1-15</td><td>YES</td></tr><tr><td>Claims</td><td></td><td>NO</td></tr><tr><td rowspan="2">Inventive step (IS)</td><td>Claims</td><td>1-15</td><td>YES</td></tr><tr><td>Claims</td><td></td><td>NO</td></tr><tr><td rowspan="2">Industrial applicability (IA)</td><td>Claims</td><td>1-15</td><td>YES</td></tr><tr><td>Claims</td><td></td><td>NO</td></tr></table> | Novelty (N) | Claims | 1-15 | YES | Claims | | NO | Inventive step (IS) | Claims | 1-15 | YES | Claims | | NO | Industrial applicability (IA) | Claims | 1-15 | YES | Claims | | NO |
| Novelty (N) | Claims | | 1-15 | YES | | | | | | | | | | | | | | | | | | |
| | Claims | | NO | | | | | | | | | | | | | | | | | | | |
| Inventive step (IS) | Claims | 1-15 | YES | | | | | | | | | | | | | | | | | | | |
| | Claims | | NO | | | | | | | | | | | | | | | | | | | |
| Industrial applicability (IA) | Claims | 1-15 | YES | | | | | | | | | | | | | | | | | | | |
| | Claims | | NO | | | | | | | | | | | | | | | | | | | |
| 2. | Citations and explanations (Rule 70.7) | | | | | | | | | | | | | | | | | | | | | |
| | <p>Reference is made to the following documents:</p> <p>D1: WO 02/075285 A D2: US 4,029,419 A D3: US 4,033,698</p> <p>Document D1 is considered the prior art closest to the subject matter of independent device claim 1 and discloses a reflectance sensor with:</p> <p>an optical unit that comprises</p> <p>a light source (see figures 1 and 2: 26) in the form of a lamp and</p> <p>fibre optics comprising optical waveguides (see figure 2: 28, 30, 36),</p> <p>at least one optical waveguide being a reference guide (see figure 2: 30);</p> <p>a sample analysis unit (see figures 1 and 2: 14) that comprises</p> <p>a measuring window (see figure 13: 52) and</p> <p>a sample analysing cell (see figure 13: the sample cell is formed by window 50 and the spacer arranged between that window and window 52),</p> | | | | | | | | | | | | | | | | | | | | | |

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| | <p>the optical unit being disposed on one side of the measuring window and the sample analysing cell being disposed on the other side of the measuring window, said cell being pressed against the measuring window so that a gap is formed between the measuring window and the sample analysing cell, through which gap a sample to be measured, in the form of a liquid pigment preparation, must pass, this resulting in substantial shearing of the sample (see page 9, lines 10-18; page 15, line 32 - page 16, line 5); and</p> <p>a system monitoring unit comprising detectors (see figure 2: 24; page 6, lines 38 and 39) for collecting measurement data, and an evaluation device connected thereto (see figure 1: 16), at least one optical waveguide connection (see figure 2: 36) running from the light source to the measuring window and from the measuring window to the detector, in order to generate a measuring signal, and at least one reference light guide connection (see figure 2: 30) running directly from the light source to the detector, in order to simultaneously generate a reference signal (see page 5, lines 36-39).</p> |
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The reflectance sensor as per claim 1 differs from D1 in that the sample analysing cell can be removed.

The subject matter of claim 1 is thus novel (PCT Article 33(2)).

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By removing the sample analysing cell from the measuring window, it is possible to use the remaining part of the reflectance sensor to measure solid samples without any further modifications being necessary.

The present invention can therefore be considered to address the problem of modifying the reflectance sensor known from D1 so that it can also be used to measure solid samples without any complex alterations being necessary.

The sample analysing cell used in D1 consists of two windows which are firmly attached to a spacer lying therebetween. There is nothing in D1 to suggest configuring the unit so that a part thereof can be removed, in order to be able to bring one of the windows into direct contact with a solid sample.

D2 (see figure 1) and D3 (see figure 5) disclose reflectance sensors for measuring solid samples, the samples each being pressed against the measuring window by a movable sample carrier. Neither D2 nor D3 mentions measuring liquid samples.

In view of the problem to be solved, a person skilled in the art would combine the teaching from documents D1 and D2 or D3 such that the resulting device would have a sample analysis unit such as described in D1 for liquid samples and a separate

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Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

sample analysis unit such as described in D2 and D3 for solid samples.

The solution proposed in the characterising part of claim 1 appears not to be suggested by D1-D3 taken either alone or in combination.

Consequently, the subject matter of claim 1 and of claims 2-11, which are dependent thereon, is considered inventive (PCT Article 33(3)).

Independent method claim 12, and claims 13 and 14 which are dependent thereon, and claim 15 are directed to the use of a reflectance sensor according to one of claims 1-11 and therefore, *mutatis mutandis*, also meet the PCT requirements in respect of novelty and inventive step.

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Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

Contrary to PCT Rule 5.1(a)(ii), the description does not cite documents D1-D3 or indicate the relevant prior art disclosed therein.

Contrary to PCT Rule 5.1(a)(iii), the description is inconsistent with the claims.

The description does not contain a brief description of the drawings (PCT Rule 5.1(a)(iv)).